SUGAR TARIFF

Speech of Jas. A. Garfield

Feb. 26, 1879.

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OF

HON. JAMES A. GARFIELD,

OF OHIO,

DELIVERED IN THE

HOUSE OF REPRESENTATIVES,

WEDNESDAY, FEBRUARY 26, 1879.

WASHINGTON.
1879.

SPEECH

OF

HON. JAMES A. GARFIELD.

The House having under consideration the bill (H. R. No. 6134) to regulate the duties on sugar—

Mr. GARFIELD said:

Mr. SPEAKER: I regret that I am not feeling well enough to address the House on this subject to my own satisfaction. By the kindness of my colleague on the Committee on Ways and Means, [Mr. TUCKER,] who paired with me, I left the House yesterday in consequence of feeling quite ill, and I should not be here to-day were it not that I am charged with the duty of presenting the bill approved by the minority of the committee; but I will try to state the case if I can have the forbearance and attention of the House.

It must be manifest to every one that any considerable change in our tariff laws at the present session is impossible; and no change whatever should be undertaken at this late day unless demanded by the most imperative necessity. That such a necessity exists for the modification of the tariff on sugar will appear further on.

The pending bill, like all bills which relate to customs duties should be considered in its relation to four great interests: the revenues, home industries, foreign trade, and the interests of consumers. First, as a source of revenue for the support of the Government, we are receiving about $37,000,000 in coin per annum from duties on sugar in its various forms. That is about one-sixth of all our revenues from all sources. The effect of any measure upon so large a part of the revenue is vital to our finances and to the fiscal credit of the Government.

Second, it affects two great producing industries of our people. The first of these is the growth of cane and the production of cane sugar, to foster which Congress has for a long time levied a discriminating duty, though only a single State is pursuing the industry. Notwithstanding the fact that sugar is one of the necessities of the daily life of our people, they have consented to pay a tax which, under existing laws, averages about 62½ per cent. *ad valorem* upon all the sugar they consume. This burden is borne cheerfully for the purpose of protect-

ing and promoting a great home industry in one of our Southern States.

A second important industry which has grown up in connection with the sugar trade and has developed to great magnitude in recent years is the business of refining. It is one of the interesting evideuces of the progress of civilization that people are using less and less of the raw sugars of commerce and more and more of refined sugars. And this change of habit is not merely a refinement of luxury but is demanded by a better knowledge of the laws of health. In a recent investigation made by the Analytical Sanitary Commission of England appointed to examine the various kinds of food, Dr. Hassell, the chairman, reported among other things the following:

We feel, however reluctantly, that we have come to the conclusion that the sugars of commerce are in general in a state wholly unfit for consumption.

That is the latest voice of science in England on the subject of unrefined sugar. And if gentlemen will turn to The Popular Science Monthly, of New York, for February, 1879, they will find a very interesting scientific discussion of the various insects that infest food, and on pages 508 and 509 occurs a passage relating to sugars, which I quote:

The sugar-mite, *T. sacchari*, [a magnified wood-cut of which accompanies the passage,] is most commonly found in brown sugar. It is large enough to be seen with the naked eye, and sometimes appears as white specks in the sugar. It may be detected by dissolving two or three spoonfuls of sugar in warm water and allowing the solution to stand for an hour or so. At the end of the time the acari will be found floating on the surface, adhering to the sides of the glass, and lying mixed with the grit and dirt that always accumulate at the bottom. In ten grains of sugar as many as five hundred mites have been found, which is at the rate of three hundred and fifty thousand to the pound. Those who are engaged in handling raw sugars are subject to an eruption known as "grocers' itch," which is doubtless to be traced to the presence of these mites. They are almost invariably present in unrefined sugars, and may be seen in all stages of growth and in every condition, alive and dead, entire or broken in fragments. Refined sugars are free from them. This is in part due, perhaps, to the crystals being so hard as to resist their jaws, but principally to the absence of albumen, for without nitrogenous matter they cannot live.

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These degraded and disgusting forms are not proper food-stuffs, nor is their consumption unavoidable. Pure articles, in an undamaged condition, do not contain them; and their presence in numbers in any article of food is proof that it is unfit for human use and should be rejected.

This scientific testimony is corroborated by the experience of all persons who manipulate raw sugars, while no such effects result from the handling of refined sugars. For these reasons the consumption of raw sugars in this and in all other civilized countries has rapidly fallen off. And so, although in former years a large quantity of what is known as grocers' sugars went directly into consumption without going through the process of refining, the amount of sugars of that class now used has been reduced to almost nothing.

To exhibit something of the magnitude of this industry, I state a few facts: omitting maple, sorghum, and beet sugar, we consumed last year in round numbers one billion seven hundred million pounds of cane sugar. Of this amount we produced in our own country two hundred million pounds; the remaining one billion five hundred millions were imported. Reduce the whole to tons, the people of the United States consumed seven hundred and forty thousand tons of cane sugar last year, or an average of about forty-five pounds to each inhabitant. Of all this vast amount of sugar not 2 per cent. was consumed in the raw or unrefined state. Nearly all of it passed through some process of refining to fit it for the use of our people.

From this it will be seen that in addition to the business of cane-planting and sugar-making there has grown up in this country a second industry of sugar refining, the importance of which may be shown by a few additional facts. There are twenty-five thousand laborers in the United States to-day employed in the business of refining sugar and fitting it for use, in addition to those employed by the sugar producers. In this work they employ coopers, blacksmiths, mechanics, machinists, and other classes of laborers. They consume thirty millions of pounds of bone-dust, eighteen thousand kegs of nails, thirty thousand car-loads of staves, and three hundred thousand tons of coal.

In this statement I do not take into account the refining done by Louisiana planters in preparing their products for market, though a large majority of the sugar growers have connected with their mills some form of refining. I have stated these facts to show the extent of the two home industries, which we should keep in view in any legislation on the subject.

The third interest to be considered is our foreign commerce, of which only a word needs to be said. We are compelled to buy abroad about 85 per cent. of all our sugar. We buy it from tropical countries with which, on every ground of public policy, we ought to maintain healthy and active relations of trade. If we are able, by our superior skill, to refine their low-grade sugars more cheaply than our neighbors and send them back with the added value of American labor, it will strengthen us industrially and commercially; and the fact that our refining interest has grown to such perfection that we have been able to sell in a single year to tropical countries about seventy million pounds of refined sugar, is a gratifying one on every account. No change should be made in the law which will injure our commercial prospects in this direction.

The fourth interest, one of vital importance, is that of the consumers of sugar. They are not a class; they are the whole population of the United States; and there must be reasons of controlling strength that will justify any considerable tax on an article of food of universal

consumption and of such prime necessity as sugar. That reason has been found partly in the necessity for revenue, but chiefly in the purpose of enabling our people to become self-supporting, and as far as possible to produce their own sugars, that they may not be dependent upon foreign countries for so important an article of food. In short, the chief reason for the tax is that American labor may find employment in producing and preparing food for American tables.

The duty on sugar has been levied in various forms. Up to 1846 sugars were classified into raw and refined sugar, with a low rate on the raw and a higher rate on the refined. But as the processes of manufacture and refining have been improved, additional grades have been added to the law from time to time to meet the new conditions. It was found in 1870 that the lower grades embraced so wide a range of products that a uniform tax upon one whole class was neither equitable nor just; and hence the law was so amended as to increase the number of classes and make the tax *ad valorem* in principle but specific in form; that is, sugar in all its forms was graded into seven classes, arranged in the order of its value, and a specific duty was levied upon each class, the lowest rate being imposed upon the sugars of lowest value and a higher rate upon each successive class. The tax thus adjusted has been an efficient means of raising revenue. I have already shown that it produces more than $37,000,000 a year. That it has afforded sufficient protection to the producers and refiners of sugar will not be denied. The theory of protection may perhaps be thus summarized: on any imported article which comes in competition with an American product the rate of tax should be proportionate to the amount of human labor which has been expended upon it at the time of importation. That which represents the least labor should bear the least burden of tax; that which represents the most should bear the greatest. This principle has generally prevailed in all our tariff laws relating to sugar.

As the law now stands, the duty is adjusted by classifying all sugars into seven grades. First, the lowest, crudest, and cheapest product, which comes in liquid form and is known as melada. On that we levy a specific duty equal to about 40 per cent. *ad valorem*. The next grade of sugar is represented by the specimen I hold in my hand, and is known in the trade and to our law as Dutch standard No. 7. Until a recent period all sugar was manufactured by the simple process of boiling down the cane-juice and clarifying the product by means of clay. By that process the purity and strength and hence the value of all crystallized sugar were exhibited by its color. Here, for example, [holding up a specimen,] is a specimen of the lowest and crudest forms of crystallized sugar. Gentlemen will notice its dark color. It is known and graded as Dutch standard No. 7, and forms the second class in our present law. Here [holding up another specimen] is

another specimen advanced higher, embodying more human labor, having less impurity in it, being advanced to a condition fit for use. It is known as Dutch standard No. 20. Ranging between these two specimens are several grades, the seven classes of the present law being—

First, melada, as I have described it.

Second, No. 7 and under.

Third, all above No. 7 and not above No. 10.

Fourth, all above No. 10 and not above No. 13.

Fifth, all above No. 13 and not above No. 16.

Sixth, all above No. 16 and not above No. 20, (a specimen of which last I have just exhibited.)

Seventh, all above No. 20.

The theory of the law is that these various grades of sugar represent a scale of increasing value, an increasing amount of labor; and therefore the higher the grade the heavier the duty. For ease of comparison I reduce the specific rates to *ad valorem*, and show the status of the existing law. On the lowest form of sugar, melada, the rate is about 40 per cent. *ad valorem*. On the next grade, which includes all not above the Dutch standard No. 7, it is about 45 per cent.; on the next grade, including No. 10, it is about 46½ per cent.; on sugars between No. 10 and No. 13 it is 49½ per cent; between 13 and 16, 68½ per cent, and so on, the rate increasing according to the value of the sugar and the amount of the labor expended upon it. This method of taxation seems to be fair and just; for if the principle of protection be applied to sugar at all, it ought to be applied on some plan of graduation which imposes the heaviest burden upon those grades which involve the most foreign labor and which are the most valuable.

I believe the correctness of the principle of the present law is not called in question anywhere. Although the aggregate rate of duty is high, consumers are not complaining; for the sugar used by our people is cheaper to-day than it has been during any previous period of our history. In 1869 the average price in the United States of all grades of sugar was 15 cents a pound. In 1878 the average price was 9 cents a pound. A dollar will to-day buy more sweetening than it would have bought at any previous period in our history. A day's work even, will buy more sweetening to-day than it would have bought ten years ago. Therefore the consumers of sugar of this country are not complaining that the rate of tax is too high. The planters of Louisiana are not complaining that they are not sufficiently protected by the present law; for they get an average protection of 62½ per cent., far greater than we get on most of our northern products.

Who, then, is complaining, if neither the producers of sugar nor the consumers complain? The Treasury alone is now making complaint. The Secretary tells us that new processes of manufacture have en-

abled foreign producers to produce sugar of as high a grade of sweetness and as pure as this specimen [showing a light colored sugar] but which has a color as low as this, [showing a dark sugar,] and therefore, as the letter of the law fixes the rate of duty on the basis of color alone, high-grade sugars in sweetness and value, but of low color, are brought in at a rate below the intent of the law, and so the revenue is defrauded. Two recent processes of manufacture known as the centrifugal process and the vacuum-pan process, have so changed the character of the product, especially in Cuba, that high-priced sugar comes in graded at low rates; and of that the Secretary of the Treasury complains. He says, and so say his experts, that we are probably losing from four to five million dollars a year, in consequence of this undervaluation of sugar.

To meet this defect in the law should be the sole object of the present bill. To whom should we look for the suggestion of a practical and efficient remedy of the only evil complained of? First of all, we should look to the officer who is charged by law with the duty of collecting the revenue. And he, the Secretary of the Treasury, has proposed a remedy. He does not ask us to change the rate of duty. He does not ask us to raise or reduce the present rate. All he does ask is that we give him the power to prevent undervaluations which he cannot prevent as the law now stands. He does not complain that the color test has been proved altogether worthless. It is still as valuable as ever for all sugars of the higher grade; but the two new processes of which I have spoken have enabled manufacturers to evade the spirit of the law in the lower grades, especially in grades below No. 10, Dutch standard; and he declares that if we will authorize him to apply other tests which will correct the undervaluation in these lower grades, he can collect the revenue fairly and fully, according to the original intent of the law, without any change of the rates or change of the grades already established. In a word, he asks us to give him the requisite authority and means for enforcing the present law according to its real intent and purpose.

Now, Mr. Speaker, I believe that I have stated all the trouble complained of in the present law. We are not asked to legislate either for the consumer or the producer, for Louisiana or for New York, or for the great West. We are asked to legislate to protect the Treasury against loss of revenue by undervaluation. That is all. And what is the remedy proposed? The Secretary of the Treasury proposes what I now offer on behalf of the minority of the Committee of Ways and Means as a substitute for the pending bill, and I ask the Clerk to read it.

The Clerk read as follows:

Be it enacted, &c., That from and after the —— day of ——, 1879, in the classification of imported sugars for assessment of duty, any sugar which shall not be

above No. 10, Dutch standard in color, which shall contain more than 92 per cent. of crystallizable sugar shall pay the rate of duty now chargeable to sugar above No. 10, and not above No. 13, Dutch standard in color, and the per centum of crystallizable sugar shall be ascertained by the polariscope or such other means as may be prescribed by the Secretary of the Treasury.

Mr. GARFIELD. The Secretary simply asks us in that amendment to give him the power to superadd to the color test the use of the polariscope or any other tests which he may find effective in making crystallizable strength and color correspond. That is all.

If there had been no virtual evasion of the color test, there would have been no need of any change in the law; and it is only to meet that evasion that he asks authority to do what he cannot now do, add to the color test the polariscope test or any other scientific test he may choose.

Mr. ROBBINS. Is it proposed to apply the polariscope test to all sugars below No. 10 in every instance?

Mr. GARFIELD. It is, wherever found necessary.

Mr. ROBBINS. How will the officers of the Government know the need of applying the test?

Mr. GARFIELD. I will tell the gentleman. Whenever an imported sugar bears evidence on its face that the color and sweetness are in harmony the color test will remain undisturbed; but when for any reason the inspectors of the revenue or other officers of the Government have reason to believe that the sugar is of a higher grade than its color would indicate, or that its color is below what the law intended, they will apply the polariscope and correct the valuation.

The bill I offer is the simplest and plainest method that can be had to enable the Secretary of the Treasury to enforce existing law.

Mr. ROBBINS. Who is to determine whether the sugar looks upon its face as sweet as it is represented to be?

Mr. GARFIELD. The Secretary of the Treasury, by his regulations and orders to his officers appointed for that purpose. What the gentleman says would be equally applicable to his own bill.

The gentleman himself in his own bill recognizes the Dutch standards of color, and how is he going to determine whether any given sugar is above or below No. 13 Dutch standard? How does he draw the line in his own bill, and who is to determine whether the sugar is above or below that standard?

Mr. ROBBINS. In reference to No. 7, who is to determine whether the sugar imported is higher or lower than No. 7?

Mr. GARFIELD. I answered the gentleman before; the executive officers of the Government charged with the office of collecting these duties under the direction of the Secretary of the Treasury and under the rules and regulations which he may make.

Now, Mr. Speaker, whatever difficulties the gentleman from North Carolina [Mr. ROBBINS] may have or I may have or you may have,

it must be taken for granted that the officers who will discharge this duty are intelligent and vigilant.

The present Secretary of the Treasury tells us that with the simple measure I have offered he can administer the law and collect the revenue. That being so, I do not think it quite becomes us to say that he cannot do it, and deny him the provision that he asks for, and all he asks for, to enable him to put five millions more revenue into the Treasury without increasing the rate of taxation.

For one, I am unwilling to take upon my shoulders the responsibility of refusing the Secretary the means he asks for to enable him to collect the revenue, and, instead, give him a remedy of my own devising.

Suppose he fails; he can very well say that Congress refused the instrument he wanted and gave him one of their own devising. In that case the responsibility will fall not upon him but upon Congress for forcing upon him a plan he did not ask for or recommend.

I say, therefore, on general principles, that when an executive officer whom we have a right to trust for his intelligence, skill, and character as a public man, comes to us and asks for a certain definite, plain provision of law, we ought to have very strong reasons of our own why we do not grant it, especially when he asks us not to change the rate of duty, not to tear down the structure of the law, but simply to give him the means to enforce it. This is the ground on which, in the first place, I plant my argument for the amendment I have offered as against the new and larger and, as I think, the very perilous scheme proposed by the majority of the Committee of Ways and Means.

Let us next consider the scheme which they have offered. I want gentlemen to understand that of the seven lower grades of sugar as they now stand in the law, each paying a different rate of duty and a rate increasing as the sugar advances in quality, by the bill of the gentleman from North Carolina [Mr. ROBBINS] it is proposed to consolidate into one the first four of those grades, that is, melada and three lowest grades of sugar, and to provide that all four grades shall be put on a dead level of equality and shall pay a duty of 2.40 cents per pound. This is a radical and sweeping change in the present law, for it covers about 90 per cent. of all sugars imported.

To show how important to the revenue those four lower grades are, I state a fact furnished by the Bureau of Statistics. It is this, that out of $37,000,000 of revenue received last year from sugar, $34,955,000, almost 90 per cent., was received from sugar of the three lower grades. I cannot emphasize this fact too strongly in considering the radical change proposed by the Robbins bill.

Mr. BUTLER. Will the gentleman allow me to interrupt him a moment?

Mr. GARFIELD. Certainly.

Mr. BUTLER. How much of that duty comes from grades under No. 7?

Mr. GARFIELD. I have not the figures before me.

Mr. BUTLER. Well, I have.

Mr. GARFIELD. Of the grades under No. 10, Dutch standard, there were received $35,000,000 out of $37,000,000; and of the grades under No. 7 I think about $14,000,000 or $15,000,000. But from No. 10 down we get thirty-five millions of the thirty-seven millions collected on sugar. What effect this change will have on the revenues it is difficult to say; but I have no doubt it will wholly prevent the importation of the lowest grades, will increase the price of sugar to the consumer and probably decrease the revenue. At all events it is a dangerous experiment to make in view of our present financial necessities.

But I desire to show how it will operate as a protective measure. I have already shown that by our present law sugar pays a duty of 40 per cent., 45 per cent., 46 per cent., 49 per cent., 68 per cent., &c., increasing in rate from the lower to the higher grades. Now note the effect of consolidating the lower grades, as proposed in the Robbins bill, and fixing the single rate of 2.40 cents per pound. Melada, which is the lowest grade and now pays about 40 per cent. will then pay 80 per cent. *ad valorem*. The second grade, (that is, sugar not above No. 7,) which now pays 45 per cent., will then pay 68½ per cent. *ad valorem*. The next grade will pay 60 per cent., the next higher 53 per cent., the next higher 45 per cent., and the next 42 per cent. *ad valorem*.

In short, the Robbins bill is an inverted cone; the lowest grade of sugar must bear the highest rate of duty, and the highest grade will bear the lowest rate. In other words, the less labor there is in the imported product, the heavier the rate of tax upon it; and the more labor, foreign labor remember, there is in it, the least burden of tax will be put upon it.

The fundamental doctrine of protection is completely overturned and reversed by this bill. Yet it is by no means a free-trade bill. It so happens that on the grades upon which the extreme high rate of duty is imposed, our friends from Louisiana will receive a very considerably larger protective duty than the present law gives them. Hence the favor with which this proposition is received by gentlemen from that portion of the country.

Mr. KELLEY. I desire to say that there is such a noise coming from the galleries that we sitting here by the gentleman from Ohio [Mr. GARFIELD] cannot hear what he is saying.

The SPEAKER *pro tempore*. Unless silence is observed in the galleries they will be cleared.

Mr. GARFIELD. Now, Mr. Speaker, I object to this bill, first, because it violates the fundamental principles of a just and equitable

taxation; and I object to it in the second place because it puts a prohibitory duty upon the low-grade sugars that are refined by American skill, and become the cheap sugar in common use among our people. It injures one portion of our industrial interests and gives an unreasonable protection to another. It violates the canons of free trade on the one hand, and of protection on the other. It destroys absolutely the business of refining the cheap low-grade sugars, and will increase the cost of sugars most in use.

Let me illustrate still further. How is it that this day while I speak to you sugar is cheaper in the United States than it has ever been before? Because we have built up in this country a great industry, by which we are eclipsing the world as refiners of sugar. When the French manufacturers were at Philadelphia at our Centennial, they were amazed to see that our sugar products there rivaled the best products of the Old World. They did not understand how it had been done. But it was the result of the same skill that has enabled America to surpass so many other countries in the recent exposition at Paris and to carry off more medals in proportion to their exhibitors than any other five countries of the globe.

We were so successful in the refining of sugar that two years ago we were exporting seventy million pounds of our refined product. It was becoming and it will become, if we are allowed to carry on this industry, a great element in our export trade. We are trading with Cuba and South America; we are compelled to depend largely upon the tropics for our raw material. Is it not wise for us to be able to send back the refined product in exchange? Or shall we so legislate as to give an undue protection to our Louisiana planters, and drive the refining business out of the United States, allowing Cuba, England, and other countries to do our refining for us? Refined sugar we must have. The day is gone by when our people will eat the animals which abound in the raw unmanufactured sugars of the world. I say, therefore, that this bill as drawn sins against the consumer and against the refining interest and unreasonably protects the producing interest of the country.

Let me illustrate a little further. In the Phillipine Islands there is a class of people who have not enough intelligence and resources to take the first simple step toward clarifying sugar. They have no limestone on their islands; they cannot even furnish the lime to drop into the sugar vats and clarify the product just a little. But they take the juice of the cane and boil it down in the crudest, rudest, simplest way, by labor the cheapest and least skillful; and when they have reduced it to a black cheap form of crystallized sugar, the dirtiest yet known, they put it up in sacks of one hundred and fifty pounds each, so that a man can carry it on his back down to the landing to be shipped away. Our people are buying largely of that low

grade of sugar from the Phillipine Islands. We are buying it also from other countries where the production is of a low grade. This sugar we bring here and by our skill and labor make it into a cheap clean sugar for table use. Shall we now by law impose a prohibitory duty on all that trade and industry, an 80 per cent. rate or a 65 per cent. rate, keeping it all out and bringing in only the sugar that has been advanced by the higher and more intelligent processes of our nearer neighbors, thus cutting off the whole business of refining these low-grade sugars? I hope not.

I know there is some controversy among the refiners themselves. Some of them—indeed, quite a number of most estimable gentlemen—say, "Let this bill pass and we can do a better refining business than is done now; we can refine the high-grade sugars." Now, I am glad to have those gentlemen work the higher grades of sugar and make a success of them; but I see no reason why our refineries should not also take the lowest grades of sugar, that which has the least value, the least labor in it, and bring it up by our American labor to a cheap, useful, merchantable form; and therefore I am unwilling, for the sake of helping one class of refiners, to destroy another. I do not believe it is necessary to destroy either.

I regret that the refiners do not unite on some common ground on which all could have had a fair chance. But there seems to have been an internecine war among them; and with such a war I have no sympathy.

Having now stated my objections in brief to the bill of the gentleman from North Carolina, [Mr. ROBBINS,] I turn to answer his criticisms of the measure I have proposed, which is the bill of the Treasury Department. The gentleman from North Carolina [Mr. ROBBINS] says that the polariscope is an unsatisfactory instrument, and that, however perfect it might be, there is serious difficulty in sampling the sugars to be tested. I admit that there is trouble about sampling. Suppose a hogshead of sugar is allowed to remain lying on its side for a month, and the sampler bores a hole in the hogshead and draws out a sample close to the bottom. He gets a wet, black, coarse portion of the sugar. On the other hand, if he draws his sample from the top, he gets a dry, lighter-colored, better grade of sugar.

Mr. BUTLER. How much foreign labor is there in the settlings of that sugar? [Laughter.]

Mr. GARFIELD. There certainly is a good deal of dirt in it. [Laughter.] As a matter of course if that sampler has been bought by some importer he may take the samples out of the bottom of the cask only, which will not represent the character of the whole. But whether the system proposed by the gentleman from North Carolina, [Mr. ROBBINS,] or that of the Treasury Department prevails, we must leave

the details of carrying it out to the Secretary of the Treasury. Under the regulations of the Treasury Department an official is not permitted to sample a hogshead of sugar in one spot only. He samples above and below and at the center; and the different samples being mixed into one, make a pretty fair average sample of the cask; and then taking every tenth cask of the cargo, a pretty fair set of samples of the whole cargo is obtained. But the trouble about sampling, inheres in any graded system, and no one proposes to abolish all the grades.

But the gentleman thinks the polariscope test is good for nothing. I have some evidence on that subject.

In the first place, Mr. Speaker, the polariscope, being a scientific instrument, (into the details of which I will not go as my learned colleague on the committee did,) the Secretary of the Treasury sent it about two years ago to the American Academy of Sciences, of which Professor Henry was president, with the request that it be examined and a report made as to the advisability of its use by the Government in determining the value of sugars for revenue purposes. After a thorough examination, and with the assistance of persons well qualified to judge, Professor Henry reported to the Secretary of the Treasury on the 5th day of February, 1878, as follows:

After due deliberation on the subject, the following are our final conclusions:

That the quantity of crystallizable sugar in imported raw sugars should be estimated by the polarimeter, which is an entirely trustworthy instrument, and one the use of which can readily be taught to any intelligent person of ordinary education.

If the polarimeter should be adopted as the measure of the value of sugar, a supply of these instruments should be obtained from Germany, and their use taught to the appraisers by a person thoroughly acquainted with the theory and practice of the instrument. The accuracy of the instruments themselves should also be tested, and the appraisers from time to time be examined as to their skill in the use of the instrument.

This is the opinion of a scientific man, the most eminent and trustworthy of our countrymen; and when he says that a layman, a man without special skill, can be taught to use this instrument accurately, and that it is "entirely trustworthy," I have not quite the courage to say it is not so.

But that is not all. I turn from the test of science to the test of practice. I have before me a memorial containing the resolutions adopted by the importers, refiners, and dealers in sugar in Boston, signed by 66 firms representing, I am told, every refiner in that city. They speak for themselves:

BOSTON, *January* 30, 1879.

At an adjourned meeting of the importers, refiners, and dealers in sugar, held this day, the following resolutions were unanimously adopted:

Resolved, That the duties on sugar should be assessed by a graduated scale of specific rates, adjusted as nearly as possible to the *ad valorem* principle, and that

this can be done by the use of the polariscope better than in any other way. Its general use in buying and selling in all civilized countries proves that it is less complicated and more reliable than any other method of determining the actual value of sugar.

Resolved, That duties ought to be so regulated and assessed as to encourage the largest possible supplies of sugar from all places of production, and not in any way made so as to favor one place more than another; and that the amount of revenue now derived from the lower grades of sugar cannot be increased without injustice and injury to the consumers, as it is now too high in proportion to high grades.

JOHN W. CANDLER, *Chairman.*
WM. H. GREELEY, *Secretary.*

We, the undersigned importers, refiners, and dealers in sugar, approve of the above resolutions.

(Signed by sixty-six firms.)

The testimony of these gentlemen is that the grading of sugars can be better effected by the polariscope than in any other way. Its general use in buying and selling sugar strongly attests its practicability.

A prominent gentleman from Boston, who is one of these signers of this memorial, stated to the Committee of Ways and Means that he bought twenty-six large cargoes of sugar during the last season from Cuba on telegraphic orders and by the polariscope test. It was done in this way: he cabled to the manufacturer in Cuba, "Send me so many hogsheads of sugar testing 92° or 94° polariscope test," and the sugars came.

The Cuban seller applied the polariscope test when he shipped them, and the Boston buyer applied the polariscope test when they were received. The record of those twenty-six cargoes shows that if the duty had been assessed by the test of the polariscope there would have been but $125 difference in half a million dollars duty between the Cuban test and the Boston test. There were variations in the tests of single cargoes, but the whole shipment showed if we had followed the Cuban test alone in levying the duties the accounnt would have varied but $125 from the amount based on the Boston test, the parties having adverse interests—one the buyer, the other the seller. Stronger proof of the practicability of the polariscope test of sugar can hardly be conceived.

Mr. MILLS. I understand my friend from Ohio and the signers of that resolution to state that the polariscope is the full test of the value of sugar.

Mr. GARFIELD. Yes, of the crystallizable strength, and therefore of the value of sugar.

Mr. MILLS. Then why not lay the duty on the value of sugar and let that be reached by the polariscope or any other means the Secretary of the Treasury may adopt?

Mr. GARFIELD. The Boston dealers asked the committee to adopt precisely the measure which my friend suggests, and that will be offered by the gentleman from Massachusetts, [Mr. BANKS.] They

proposed that the duties on sugar should be laid on the percentage of saccharine strength; for instance, 1 per cent. of saccharine strength should pay so much, and 2 per cent. twice as much, and so on through all the grades, to be tested by the polariscope.

Mr. MILLS. Then the polariscope tests the value of sugar?

Mr. GARFIELD. Yes; and theoretically they are right. But, as a matter of practice, I think, and this was the opinion of most of the Committee of Ways and Means, that the Boston plan would make the sugar tariff too complicated, for there would be one cargo having a small per cent. less strength than another, a different rate of duty. The rates would be too numerous and complicated. We therefore preferred to retain the existing seven grades and apply the polariscope to them.

Mr. TUCKER. The gentleman from Ohio has spoken of the character of the polariscope as a test, and says it is a test of the quantity of saccharine matter. Is it not rather a test of the crystallizable quality of the sugar?

Mr. GARFIELD. My colleague is right; I should have used the word crystallizable. That is the language of my amendment.

Mr. TUCKER. Is it not true that we were told in the committee, so far from its being a test of the quantity of saccharine matter, that the sugar not crystallizable had so much saccharine matter that it was used by all the refiners?

Mr. GARFIELD. I thank my colleague; for I was about to omit what, if left out, would have made my statement incomplete. The chief element of value in sugar is sugar crystals; but there is also another element, which is uncrystallizable, but still sweet, known as glucose, which will be found in the most perfect sugar of commerce. Glucose is not deleterious, is sweetening, and is found in all sugar. The chief element, and that with which we are mainly concerned, is of course the crystal, the crystallized sugar. Therefore in our bill we apply our test to the crystallizable strength of sugar, and that the polariscope detects. That is what we are legislating about; not about glucose and other elements that enter into sugar. The main product is crystallized sugar, and that is perfectly tested by the polariscope.

I do not say that the polariscope is a perfect test in every respect; but I say in the present stage of scientific knowledge it is the best test we know. It is approved by the highest science and by the practical experience of our foremost dealers in sugar.

Mr. BUTLER. I desire to ask the gentleman a question.

Mr. GARFIELD. Very well.

Mr. BUTLER. I ask the gentleman if the polariscope gives any correct test of melada, the lowest grade?

Mr. GARFIELD. It does—of its crystallizable strength.

Mr. BUTLER. But if it is not crystallized?

Mr. GARFIELD. The melada question is not important, for it pays a specific duty as the law now stands; but should crystallizable sugar be brought in mixed with melada it would be tested by the polariscope. I believe I have now gone over the main points in this discussion.

Mr. ROBBINS. I desire to ask the gentleman a question.

Mr. GARFIELD. Very well.

Mr. ROBBINS. There are no other means but the polariscope which can be applied as a percentage test, except chemical analysis, are there?

Mr. GARFIELD. Not that I know of. I ought to have added that we do not confine the Secretary to the polariscope alone. We authorize him to employ the polariscope or such other test as he may find necessary to determine the real crystallizable strength of sugar. No doubt he will use the polariscope ordinarily; but if there is any doubt of its accuracy in any important case he can employ a chemist and make a chemical analysis.

Mr. ROBBINS. One word more. The chemical analysis test is too costly for general use, is it not?

Mr. GARFIELD. Oh, yes; it would be too cumbrous and costly to be used ordinarily. But it can always be used to verify the polariscope test in any important case.

Mr. ROBBINS. But who is to know that any correction is needed?

Mr. GARFIELD. My friend in that question has taken up the conflict of ages. Who shall do anything except the men appointed to carry out the law? Who shall find out any blunder or correct any wrong unless you appoint somebody to do it? Congress, I take it, can hardly determine the sweetness or strength of sugar or the amount of glucose in it unless we appoint an agent. The Treasury cannot do it except by its agents. In any system there will be the trouble suggested by the gentleman from North Carolina.

In conclusion, Mr. Speaker, I do not want Congress to tinker with the tariff at this time. That was attempted last year; and in the remarks I made on that occasion I denounced the sugar clause of the bill then introduced, because while there was a reduction of the rate on most northern interests, the rate on sugar was increased considerably, even up to 70 per cent. I say, therefore, let us not undertake to change the tariff rates in this closing week of the session. But when the Administration tells us that four or five millions of revenue are being lost, let us provide the means they want to protect the Government against undervaluation and loss.